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CANNING UNCHILLED MEAT

(Supplement to mimeographed circular entitled "Methods of canning beef and veal in community canning centers", issued by Bureau of Home Economics, June 1934)

UNDER ORDINARY CONDITIONS, no slaughtering should be done, and no meat-canning plant should be operated without refrigeration facilities close at hand. In the drought areas, however, and UNDER PRESENT EMERGENCY CONDITIONS, IT MAY BE NECESSARY, in order to save a valuable meat supply, to kill some of the animals where they are -- on the farm or within reach of some existing canning center. If neither the farm nor the canning center has facilities for chilling the meat before canning it, the question then is: "Shall the meat be wasted? Or could it safely be canned immediately after slaughter, without chilling the carcass?"

To answer this question the Bureau of Home Economics consulted specialists in canning and handling of meat, also the meat inspection service of the Bureau of Animal Industry. It was the consensus of opinion of these specialists that from the bacteriological point of view this was a safe procedure, provided the meat was gotten into the can and into the cooker quickly after killing.

To test the influence of this method of handling on the flavor and tenderness of the canned meat, a beef was killed, half the carcass was canned immediately, the other half after chilling. The product of this experimental canning was eaten by qualified judges of meat, and the meat canned without chilling, as well as the meat canned after chilling, was found to be an acceptable product. It was somewhat less tender than the meat canned after chilling, but otherwise equally good.

Therefore, PROVIDED THE CANNING IS DONE IMMEDIATELY AFTER THE ANIMAL IS SLAUGHTERED, the Bureau of Home Economics suggests the canning of unchilled meat when chilling is absolutely impossible and where the essential precautions are taken.

ESSENTIAL PRECAUTIONS ARE --

Have meat carcasses inspected by qualified meat inspection officials.

Follow directions given in Farmers' Bulletin 1415, "Beef on the farm, slaughtering, cutting, curing."

Deliver the meat to the canners within 15 to 20 minutes after the carcass is dressed.

Regulate the number of animals slaughtered to the rate of canning, so that the slaughtering, dressing, boning, and canning of the meat may be done as a continuous process, without delay at any stage.

KEEP THE TIME BETWEEN THE SLAUGHTERING OF THE ANIMAL AND THE FIRST COOKING OF THE MEAT AS SHORT AS POSSIBLE.

(over)

METHODS OF CANNING unchilled meat --

(1) As in Method 1 for chilled meat, on page 5 of the mimeographed circular entitled "Methods of canning beef and veal in community canning centers", issued by the Bureau of Home Economics, June 1934:

Fill each can with two or more pieces of raw meat which have been cut to fit the can. Weighing the raw meat in the cans is not necessary. Place the cans in a retort in alternating positions so that no can is directly above another. Cover the top tier with a circular metal plate for protection. Close retort, vent or exhaust air as in processing by allowing steam to emerge before shutting off the petcock. Cook 15 to 20 minutes at 240° F., or 10 pounds pressure. Allow steam to escape gradually. Remove cans and test some center cans of each tier to make certain of sufficient cooking. By thermometer test, the temperature should read not less than 170° F. (77° C.). Without a thermometer, make sure the meat is steaming hot, and none of the red color of raw meat is left. (See directions for sealing, page 4 of "Methods of canning beef and veal at community canning centers.")

Weigh the cans and for any below 20 ounces net (allowing an average weight for the empty cans) add hot meat or juice from other cans to bring up required weights. In some cases it may be necessary to pour off excess juice. Add 3/4 to 1 teaspoon of salt to each can. Put through exhaust box, seal, stamp, and process 55 minutes at 250° F., or 15 pounds pressure. Cool immediately.

(2) The only difference between this second method for unchilled meat and Method 2 for chilled meat on page 5 of the Bureau of Home Economics circular cited above is that the time for pre-cooking is increased for the unchilled meat.

Cut the meat in pieces weighing about 1 pound each. Place these pieces in just enough boiling water to cover. Do not allow the temperature to come to boiling again, but cook at simmering temperatures (around 196° F.) for about 40 to 60 minutes. This should shrink the meat to about two-thirds of its original volume, and leave no red color inside the pieces. Pack at once, cutting the meat as necessary to fill the cans. Add boiling hot concentrated broth to cover, and 3/4 to 1 teaspoon of salt to each can. Exhaust, seal, and stamp. Process 60 minutes at 250° F., or 15 pounds pressure. Cool immediately.